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SUITE 200				
Reston, VA 20191				
EXAMINER				
UHLENHAKE, JASON S				
ART UNIT		PAPER NUMBER		
2853				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/506,516

Applicant(s)

DECKERS ET AL.

Examiner

JASON S. UHLENHAK

Art Unit

2853

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG/US)
- Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 1/12/2009 has been entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 9-10, 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Young (U.S. Pub. 2003/0081096).

Young discloses:

- ***regarding claim 9***, a set of UV curable ink jet inks suitable for use in a single pass progressive dot printing ink jet process comprising at least four UV curable inks having a different viscosity, surface tension or curing speed (Figure 4; Paragraphs 0038, 0042, 0050-0052)

- **regarding claim 10**, the UV curable inks are selected from cyan, magenta, yellow and black (Paragraphs 0040-0041)
- **regarding claim 14**, an ink dispenser holding a set of UV curable ink jet inks (Figure 4)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5, 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young (U.S. Pub. 2003/0081096) in view of Temple (U.S. Pub. 2003/0067527)

Young discloses:

- **regarding claim 1**, a single pass progressive dot printing ink-jet process comprising the steps of: applying a first UV curable ink drop to a substrate; and applying a second UV curable ink drop; wherein the first and second UV curable ink drops have a different viscosity, surface tension or curing speed (Figure 4; Paragraphs 0038, 0042, 0050-0052)
- **regarding claims 2-3**, wherein subsequent UV curable ink drops are applied and wherein at least four UV curable ink drops are applied (Figure 4; Paragraphs 0038, 0042, 0050-0052)

- **regarding claim 4**, wherein the first and second UV curable ink drops are different colors (Figure 4; Paragraphs 0041-0042, 0050-0052)

- **regarding claim 5**, wherein the UV curable ink drops are selected from cyan, magenta, yellow and black (Paragraph 0041)

- **regarding claim 15**, wherein the first and subsequent UV curable ink drops are each different colors (Paragraph 0041)

Young does not disclose expressly the following:

- **regarding claim 1**, applying a first UV curable ink drop to a substrate; and applying a second UV curable ink drop on to the first UV curable ink drop without intermediate solidification of the first UV curable ink drop

- **regarding claims 2, 3**, wherein subsequent UV curable ink drops are applied sequentially to the combined first and second UV curable ink drops without intermediate solidification of the first and subsequent UV curable ink drops.

Temple discloses:

- **regarding claim 1**, applying a first UV curable ink drop to a substrate; and applying a second UV curable ink drop on to the first UV curable ink drop without intermediate solidification (wet on wet) of the first UV curable ink drop. Temple discloses that wet-on-wet printing is known using UV curable ink (Paragraphs 0004, 0023), for the purpose of printing a flat and smooth print surface (Abstract; Paragraph 0024)

- **regarding claims 2, 3**, wherein subsequent UV curable ink drops are applied sequentially to the combined first and second UV curable ink drops without

intermediate solidification of the first and subsequent UV curable ink drops. Temple discloses that wet-on-wet printing is known using UV curable ink (Paragraphs 0004, 0023).

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Temple into the device of Young, for the purpose of printing a flat and smooth print surface

Claims 6, 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young (U.S. Pub. 2003/0081096) as modified by Temple (U.S. Pub. 2003/0067527) as applied to claim 1 above, and further in view of Onishi et al (U.S. Pub. 2001/0015745)

Young as modified by Temple discloses:

- ***regarding claim 16***, a single pass progressive dot printing ink-jet process comprising the steps of: applying a first UV curable ink drop to a substrate; and applying a second UV curable ink drop; wherein the first and second UV curable ink drops have a different viscosity, surface tension or curing speed and subsequent UV curable ink drops are applied sequentially to the combined first and second UV curable ink drops (Young: Figure 4; Paragraphs 0038, 0042, 0050-0052)

- ***further regarding claim 16***, applying a first UV curable ink drop to a substrate; and applying a second UV curable ink drop on to the first UV curable ink drop without intermediate solidification (wet on wet) of the first UV curable ink drop. Temple discloses that wet-on-wet printing is known using UV curable ink (Paragraphs 0004, 0023)

Young as modified by Temple does not disclose expressly the following:

- ***regarding claims 6, 16***, wherein the viscosity of the UV curable inks varies in a graduated manner with a range of from 10 up to 30 MPas or a range of 30 down to 10 mPas

Onishi discloses:

- ***regarding claims 6, 16***, wherein the viscosity of the UV curable inks varies in a graduated manner with a range of from 10 up to 30 MPas or a range of 30 down to 10 mPas (Paragraph 0096). Onishi discloses a range which assures stable jetting from an ejection head, therefore each ink (four inks disclosed in Young) will be within the disclosed range and the inks will be applied in a graduated manner under certain conditions.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Onishi into the device of Young as modified by Temple, for the purpose of assuring stable jetting from an ejection head.

Claims 7, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young (U.S. Pub. 2003/0081096) as modified by Temple (U.S. Pub. 2003/0067527) as applied to claim 1 above, and further in view of Kasperchik (U.S. Pat. 6,536,878)

Young as modified by Temple discloses:

- ***regarding claim 17***, a single pass progressive dot printing ink-jet process comprising the steps of: applying a first UV curable ink drop to a substrate; and applying a second UV curable ink drop; wherein the first and second UV curable ink drops have

a different viscosity, surface tension or curing speed and subsequent UV curable ink drops are applied sequentially to the combined first and second UV curable ink drops (Young: Figure 4; Paragraphs 0038, 0042, 0050-0052)

- **further regarding claim 17**, applying a first UV curable ink drop to a substrate; and applying a second UV curable ink drop on to the first UV curable ink drop without intermediate solidification (wet on wet) of the first UV curable ink drop. Temple discloses that wet-on-wet printing is known using UV curable ink (Paragraphs 0004, 0023)

Young as modified by Temple does not disclose expressly the following:

- **regarding claims 7, 17**, wherein the surface tension of the UV curable inks varies in a graduated manner within a range of from 20 up to 40 dynes/cm or a range of from 40 down to 20 dynes/cm

Kasperchik discloses:

- **regarding claims 7, 17**, wherein the surface tension of the UV curable inks varies in a graduated manner within a range of from 20 up to 40 dynes/cm or a range of from 40 down to 20 dynes/cm (Column 15, lines 13-20). Kasperchik discloses a surface tension range to use with high frequency printing systems, therefore each ink (four inks disclosed by Young) will be within the disclosed range and the inks will be applied in a graduated manner under certain conditions.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Kasperchik into the device of

Young as modified by Temple, for the purpose of performing the printing operation at a high rate of speed.

Claims 8, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young (U.S. Pub. 2003/0081096) as modified by Temple (U.S. Pub. 2003/0067527) as applied to claim 1 above, and further in view of Lin (U.S. Pat. 5,531,818)

Young as modified by Temple discloses:

- ***regarding claim 18***, a single pass progressive dot printing ink-jet process comprising the steps of: applying a first UV curable ink drop to a substrate; and applying a second UV curable ink drop; wherein the first and second UV curable ink drops have a different viscosity, surface tension or curing speed and subsequent UV curable ink drops are applied sequentially to the combined first and second UV curable ink drops (Young: Figure 4; Paragraphs 0038, 0042, 0050-0052)

- ***further regarding claim 18***, applying a first UV curable ink drop to a substrate; and applying a second UV curable ink drop on to the first UV curable ink drop without intermediate solidification (wet on wet) of the first UV curable ink drop. Temple discloses that wet-on-wet printing is known using UV curable ink (Paragraphs 0004, 0023)

Young as modified by Temple does not disclose expressly the following:

- ***regarding claims 8, 18***, wherein the curing speed of the UV curable inks varies in a graduated manner within a range of from 20 up to 70m/min or a range of from 70 down to 20 m/min

Lin discloses:

- ***regarding claims 8, 18***, wherein the curing speed of the UV curable inks varies in a graduated manner within a range of from 20 up to 70m/min or a range of from 70 down to 20 m/min (Column 12, Lines 5-25). Lin discloses a curing speed range to avoid ink smearing and intercolor bleeding, therefore each ink (as disclosed by Young) will be within the disclosed range and the inks will be applied in a graduated manner under certain conditions

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Lin into the device of Young as modified by Temple, for the purpose of avoiding ink smearing and intercolor bleeding.

Claims 11 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young (U.S. Pub. 2003/0081096) in view of Onishi et al (U.S. Pub. 2001/0015745)

Young discloses:

- ***regarding claim 19***, a set of UV curable inkjet inks suitable for use in a single pass progressive dot printing inkjet process comprising at least two UV curable inks having a different viscosity, surface tension or curing speed (Figure 4; Paragraphs 0038, 0042, 0050-0052)

Young does not disclose expressly the following:

- **regarding claims 11, 19**, wherein the viscosity of the UV curable inks varies in a graduated manner with a range of from 10 up to 30 MPas or a range of 30 down to 10 mPas

Onishi discloses:

- **regarding claims 11, 19**, wherein the viscosity of the UV curable inks varies in a graduated manner with a range of from 10 up to 30 MPas or a range of 30 down to 10 mPas (Paragraph 0096). Onishi discloses a range which assures stable jetting from an ejection head, therefore each ink (four inks disclosed in Young) will be within the disclosed range and the inks will be applied in a graduated manner under certain conditions.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Onishi into the device of Young, for the purpose of assuring stable jetting from an ejection head.

Claims 12 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young (U.S. Pub. 2003/0081096) in view of Kasperchik (U.S. Pat. 6,536,878)

Young discloses:

- **regarding claim 20**, a set of UV curable inkjet inks suitable for use in a single pass progressive dot printing inkjet process comprising at least two UV curable inks having a different viscosity, surface tension or curing speed (Figure 4; Paragraphs 0038, 0042, 0050-0052)

Young does not disclose expressly the following:

- **regarding claims 12, 20**, wherein the surface tension of the UV curable inks varies in a graduated manner within a range of from 20 up to 40 dynes/cm or a range of from 40 down to 20 dynes/cm

Kasperchik discloses:

- **regarding claims 12, 20**, wherein the surface tension of the UV curable inks varies in a graduated manner within a range of from 20 up to 40 dynes/cm or a range of from 40 down to 20 dynes/cm (Colum 15, lines 13-20). Kasperchik discloses a surface tension range to use with high frequency printing systems, therefore each ink (four inks disclosed by Young) will be within the disclosed range and the inks will be applied in a graduated manner under certain conditions.

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Kasperchik into the device of Young, for the purpose of performing the printing operation at a high rate of speed.

Claims 13 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Young (U.S. Pub. 2003/0081096) in view of Lin (U.S. Pat. 5,531,818)

Young discloses:

- **regarding claim 21**, a set of UV curable inkjet inks suitable for use in a single pass progressive dot printing inkjet process comprising at least two UV curable inks having a different viscosity, surface tension or curing speed (Figure 4; Paragraphs 0038, 0042, 0050-0052)

Young does not disclose expressly the following:

- **regarding claims 13, 21**, wherein the curing speed of the UV curable inks varies in a graduated manner within a range of from 20 up to 70m/min or a range of from 70 down to 20 m/min

Lin discloses:

- **regarding claims 13, 21**, wherein the curing speed of the UV curable inks varies in a graduated manner within a range of from 20 up to 70m/min or a range of from 70 down to 20 m/min (Column 12, Lines 5-25). Lin discloses a curing speed range to avoid ink smearing and intercolor bleeding, therefore each ink (as disclosed by Young) will be within the disclosed range and the inks will be applied in a graduated manner under certain conditions

At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of Lin into the device of Young, for the purpose of avoiding ink smearing and intercolor bleeding.

Response to Arguments

Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection. Please see the above rejection regarding Young (U.S. Pub. 2003/0081096).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JASON S. UHLENHAKE whose telephone number is (571)272-5916. The examiner can normally be reached on Monday-Friday 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on (571) 272-2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JASON S UHLENHAKE/
Examiner, Art Unit 2853
March 16, 2009

/Julian D. Huffman/
Primary Examiner, Art Unit 2853